

REMARKS

Claims 1-6, 13 and 14 are pending in this application. By this Amendment, withdrawn claims 7-12 are canceled without prejudice to or disclaimer of the subject matter contained therein. Claim 1 is amended and claims 13 and 14 are added. New claim 13 incorporates the subject matter of original claim 1 and allowable claim 2. No new matter is added.

I. Information Disclosure Statement

An Information Disclosure Statement and Form PTO-1449 were filed on January 30, 2003. Applicants respectfully request acknowledgement of receipt and consideration of the references listed thereon.

II. Telephone Interview

The Examiner is thanked for the many courtesies extended to Applicants' representative during the telephone interview held November 20, 2003. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

III. Allowable Subject Matter

Applicants appreciate the indication of allowable subject matter in claims 2 and 5, they being allowable if rewritten in independent form to incorporate the features recited in the base claim, as well as any intervening claims. Applicants submit that claims 2 and 5, as well as the remaining pending claims, are allowable for at least the reasons discussed below.

IV. Drawings

The drawings are objected to because Fig. 2 is alleged to be missing. As Fig. 22 is shown on the same sheet as Fig. 7, Applicants respectfully request the objection to the drawings be withdrawn.

V. Claim Rejections Under 35 U.S.C. §112

Claims 1-6 are rejected under 35 U.S.C. §112, second paragraph. The rejection is respectfully traversed.

The Office Action alleges that the meaning of "a failure detecting means" recited in claim 1 is not clear. Applicants submit that the failure detecting means as recited in the claim may be composed of a comparator 66 and a counter 76 (see Fig. 5) and a discriminating section 170, 170b, etc. (see Figs. 9 and 17). See also page 13, lines 8-12, and page 15, lines 13-21 of the specification.

The Office Action further alleges that the difference between the failure detecting means and the alarm means, as recited in claim 6, is unclear. As shown in Fig. 4, the alarm means may be composed of a lamp 89 and associated circuits, such as a transistor 75. See also page 13, lines 8-12 of the specification. In contrast, as described above, the failure detecting means may be composed of a comparator 66, counter 76 and discriminating sections 170 and 170b, etc. Thus, Applicants respectfully request the rejection of claims 1-6 under 35 U.S.C. §112, second paragraph, be withdrawn.

VI. Claim Rejections Under 35 U.S.C. §103

Claims 1, 4 and 6 are rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent 5,686,819 to Iwatani et al. (hereinafter "Iwatani") in view of U.S. Patent 6,121,757 to Takahashi et al. (hereinafter "Takahashi"). The rejection is respectfully traversed.

Applicants assert that neither Iwatani nor Takahashi, whether considered alone or in combination, disclose or suggest each and every feature recited in the claims as amended. For example, the combination of references does not disclose or suggest a voltage regulator for controlling an output voltage of an alternator having armature winding, a field winding and a power supply line, comprising *inter alia*, a failure detecting means for comparing the output

voltage with a threshold and detecting a failure in the power supply line connected to an output terminal of the alternator when the output voltage exceeds the threshold and a generation control means for controlling, upon detection of the failure in the power supply line, power generation of the alternator for a predetermined time that is longer than a time constant of the field winding to suppress the power generation which tends to cause a repetition of high voltage generation.

The Office Action alleges that Iwatani discloses an alarm system. However, as discussed above regarding the rejection of claim 1 under 35 U.S.C. §112, the failure detecting means comprises a computer 66, a counter 76 and a discriminating section 170, 170B, etc. Thus, Iwatani does not disclose a failure detecting means for comparing the output voltage with a threshold and detecting a failure in the power supply line connected to an output terminal of the alternator when the output voltage exceeds the threshold.

Furthermore, as recited above regarding the rejection of claim 6 under 35 U.S.C. §112, second paragraph, the claimed failure detecting means differs from the claimed alarm means. Thus, the alarm means disclosed in Iwatani does not correspond to the failure detecting means recited in claim 1. Rather, in Iwatani the high voltage control means includes an alarming means for outputting an alarm signal in response to an abnormality detection signal indicating that the output of the AC generator is below a generator reference level (see claim 5 of Iwatani). Thus, the alarm means of Iwatani does not correspond to the failure detecting means that detects a failure in the power supply line ... when the output voltage exceeds the threshold.

During the telephone interview, it was further alleged that the High Voltage Control Circuit 8 of Iwatani corresponds to the failure detecting means recited in the rejected claims.

Applicants assert that the Circuit 8 of Iwatani does not correspond to the failure detection means. For example, the failure detection means as claimed is part of the voltage

regulator. In contrast the Circuit 8 is not part of the voltage regulator 3A described in Iwatani.

Furthermore, the Circuit 8 does not compare the output voltage with a threshold voltage and detect a failure in the power supply line connected to an output terminal of the alternator when the output voltage exceeds the threshold.

Rather, in Iwatani, the comparator 805 has a plus input terminal to which voltage generated across an on board high-voltage electric load 5 is inputted via a high-voltage diction line L4 and a minus input terminal to which a reference voltage is inputted. The transistor 806, connected to the output of the comparator 805, is turned on in response to a high-level output of the comparator 805. Thus, the Circuit 8 is not detecting a failure in the power supply line.

Additionally, the Office Action admits that Iwatani does not disclose the power generation control means as recited in the rejected claims. To overcome the admitted deficiency, the Office Action combines Takahashi and alleges that it would have been obvious to one having ordinary skill in the art at the time the invention was made to make such a combination.

Applicants submit that there is no motivation or suggestion in either of the applied references to make the combination as alleged in the Office Action. For example, Iwatani addresses control of switching or changeover of AC generator output from the battery to the generator during high voltage load demands, such as activating catalyst heating systems or a defrosting system. The control apparatus suppresses variation of the regulating voltage which is brought about by deterioration of switch contacts to protect the battery and the high voltage load from damage.

In Takahashi, a control device is disclosed for controlling output of a generator when the electric load increases. Particularly, Takahashi addresses problems with gradual

excitation control systems which suppress rapid rising field current due to a sudden large electric load, such as turning on headlights, windshield wipers, etc. Furthermore, neither of the applied references address the problem being resolved in the application. Thus, there is no suggestion in either of the references to make the combination as alleged in the Office Action to control thermal damage due to small surges of voltage repeatedly applied to the power Zener diode within a short period of time as recited in the current application.

Furthermore, even were such a combination made, Takahashi does not disclose or suggest a generation control means for controlling, upon detection of the failure in the power supply line, power generation of the alternator for a predetermined time that is longer than a time constant of the field winding to suppress the power generation which tends to cause a repetition high voltage generation. Rather, Takahashi merely discloses an integration circuit which responds to the output of the adder circuit with a time constant which is longer than a time constant of a field winding. Thus, in Takahashi, the field current is transferred. Accordingly, Applicants respectfully request the rejection of claims 1, 4 and 6 under 35 U.S.C. §103(a) be withdrawn.

Claim 3 is rejected under 35 U.S.C. §103(a) as unpatentable over Iwatani and Takahashi in view of U.S. Patent 6,344,734 to Iwatani et al. (the '734 patent).

Applicants assert that claim 3 is allowable for at least its dependency on claim 1 for the reasons discussed above, as well as for the additional features recited therein.

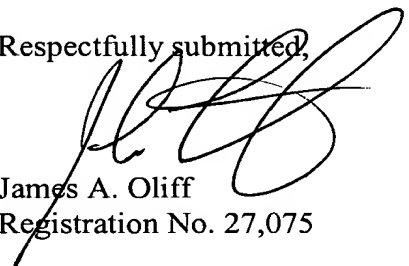
Additionally, Applicants assert that none of the applied references, whether considered alone or in combination, disclose or suggest the additional features recited in claim 3.

VII. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-6, 13 and 14 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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